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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,370	02/26/2004	Jens-Peter Dittrich	34874-086 UTIL	5133

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EXAMINER

LIE, ANGELA M

ART UNIT	PAPER NUMBER
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2163

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/789,370

Applicant(s)

DITTRICH ET AL.

Examiner

Angela M. Lie

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2163

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 11-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 23 is/are rejected.
- 7) ☒ Claim(s) 4-10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/21/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. **35 U.S.C. 101 reads as follows:**

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. **Claims 1 and 23 are rejected under 35 U.S.C. 101** because the claimed invention lacks patentable utility. The applicant, in the very end of claims 1 and 23, discloses “reducing the width of the column if the cardinality is ...”, this in fact does not provide useful and tangible result because there is no alternative to this solution. In other words if cardinality is not less than threshold then there is no solution to this method.

3. **Claim 1 is also rejected under 35 U.S.C. 101** because the claimed invention is directed to non-statutory subject matter. The claim 1 teaches computer-implemented method however the claim does not disclose any information about the method actually being implemented on a computer readable medium (in contrast to claim 23). Furthermore, the applicant discloses in paragraph 35 of the instant specification, that the method can be represented by software, and if it is a case then the claim is non-statutory.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 23 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claims 1 and 23 are rejected under 35 U.S.C. 112, second paragraph, as

being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: defining which cardinality is compared with a total number of possible values and also reference column is not specified. In lines 5 and 6 of claim 1 and lines 7 and 8 of claim 23, the applicant discloses "comparing the cardinality with a total number of possible values in the rows of at least one column based on a width of the column". This phrase alone does not provide sufficient bases to allow one skilled in the art, to deduce which cardinality or width of which column is used to make the comparison.

7. Claims 1, 2 and 23 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "related" in claim 2 is a relative term which renders the claim indefinite.

The term "related" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. It is unclear what the threshold

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really is, is it actually the least integer greater or equal to the logarithm to the base two of the cardinality of the column or is it just related to it. If it is related, then it should be specifically defined what is the relationship between the least integer and the threshold value.

9. The term "values" in claims 1 and 23 is a relative term which renders the claim indefinite. The term "values" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The term "values" was not clearly defined in the instant specification. The applicant has to clarify what type of values are used to define cardinality, for instance are the values represented by binary numbers i.e. 0 and 1 or numbers 0-9, or maybe values consists of entire alphabet (A-Z). The definition of the term "values" is critical in interpreting the meaning of the claimed invention.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

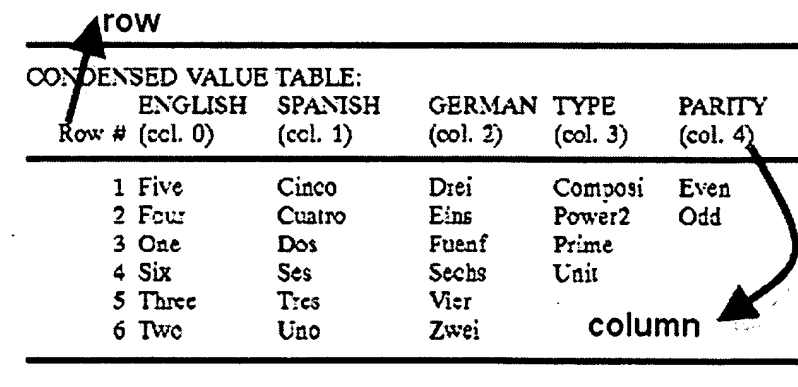
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. **Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by**

Tarin (US Publication No. 2001/0000536).

As to claims 1 and 23, Tarin discloses a method of reducing a memory footprint (i.e. condensing) of a database table having a plurality of rows and one or more columns (table shown on page 6, after paragraph 79), wherein each of the one or more columns has a cardinality (paragraph 83), and wherein the cardinality is a total number of different values in the rows of each column (paragraph 79), the method comprising: comparing the cardinality with a total number of possible values in the rows of at least one column based on a width of the column (paragraph 311); and reducing the width of the column if the cardinality is less than a threshold based on the total number of possible values in the rows of the at least one column (paragraphs 83 and 355, lines 6-9, i.e. reducing the width is equivalent with condensation, and further if the size is compressed there has to be a threshold, i.e. the minimal value that will not allow the space to be over-compressed, because otherwise some data could be lost).

As to claim 3, Tarin discloses a method wherein a value of an entry in a row and a column (as indicated in Figure 1 below) comprises a data entry in a cell (as shown in a table below), wherein the column in the table has a maximum value length of k bits (paragraph 83).



The diagram shows a table with the following structure:

CONDENSED VALUE TABLE:					
Row #	ENGLISH	SPANISH	GERMAN	TYPE	PARITY
(col. 0)	(col. 1)	(col. 1)	(col. 2)	(col. 3)	(col. 4)
1	Five	Cinco	Drei	Composi	Even
2	Four	Cuatro	Eins	Power2	Odd
3	One	Dos	Fuenf	Prime	
4	Six	Ses	Sechs	Unit	
5	Three	Tres	Vier		
6	Two	Uno	Zwei		

An arrow labeled "row" points to the first column (Row #). An arrow labeled "column" points to the last column (PARITY).

Figure 1

Allowable Subject Matter

12. **Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if 35 U.S.C 101 and 112 second paragraph regarding claims 1 and 2 would be overcome and further if claim 2 would be rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

13. The following is a statement of reasons for the indication of allowable subject matter:

As to claim 2, the prior art fails to teach a method for reducing a memory footprint as disclosed in claim 1, wherein threshold is a least integer greater than or equal to the logarithm to the base two of the cardinality of the column.

14. **Claims 4-10 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

As to claims 4, the prior art fails to teach a method of reducing a memory footprint as disclosed in claim 3, and further wherein a dictionary for the column has an entry for each different value in the column, wherein the dictionary for the column comprises a width of k-bits.

As to claims 5-9, those claims would be allowable by the virtue of their dependency on claim 4.

As to claim 10, the prior art fails to teach a method as disclosed in claim 1, further comprising the step of writing dictionary for the column, wherein the dictionary references the column entries, and wherein the dictionary comprises one row for each of the different values in the column.

The Prior Art

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Loboz et al (US Patent 7058646) discloses a method of reducing database reorganization time by column manipulation wherein the size of a character column can be reduced, however this reference does not explicitly teach reducing the width of the column based on its cardinality.

Inquiry

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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